Electronic Version
Stylesheet Version v1.1.1

Claims

[c1] 1.A method for driving a liquid crystal display (LCD) panel, the LCD panel comprising:
a plurality of scan lines;
a plurality of data lines; and
a plurality of pixels, each pixel being connected to a corresponding scan line and a corresponding data line, and each pixel comprising a liquid crystal device and a switching device connected to the corresponding scan line, the corresponding data line, and the liquid crystal device, and
the method comprising:
receiving continuously a plurality of frame data;
generating a plurality of data impulses for each pixel within every frame period according to the frame data; and
applying the data impulses to the liquid crystal device of one of the pixels within one frame period via the data line connected to the pixel in order to control a transmission rate of the liquid crystal device of the pixel.

[c2] 2. The method of claim 1 further comprising:
delaying the frame data to generate a plurality of corre-

sponding delayed frame data; and
comparing current frame data and corresponding delayed data to determine voltage values of the data impulses when generating the data impulses.

[c3] 3.The method of claim 2 wherein the data impulses are a first data impulse and a second data impulse applied to the liquid crystal device of the pixel in sequence within the frame period.

[c4] 4. The method of claim 3 further comprising:
determining a difference between the first data impulse and the second data impulse according to the current frame data and the corresponding delayed frame data.

[c5] 5. The method of claim 1 further comprising:
applying a scan line voltage to the switch device of the pixel via the scan line connected to the pixel in order to have the data impulses be applied to the liquid crystal device of the pixel.

[c6] 6. The method of claim 1 wherein each frame data comprises a plurality of pixel data, and each pixel data corresponds to a pixel.

[c7] 7. A driving circuit for driving an LCD panel, the LCD panel comprising:
a plurality of scan lines;

a plurality of data lines; and

a plurality of pixels, each pixel being connected to a corresponding scan line and a corresponding data line, and each pixel comprising a liquid crystal device and a switching device connected to the corresponding scan line, the corresponding data line, and the liquid crystal device,

the driving circuit comprising:

a blur clear converter for receiving frame data every frame period, each frame data comprising a plurality of pixel data and each pixel data corresponding to a pixel, the blur clear converter delaying current frame data to generate delayed frame data and generating a plurality of overdriven pixel data within every frame period for each pixel;

a source driver for generating a plurality of data impulses to each pixel according to the plurality of overdriven pixel data generated by the blur clear converter and applying the data impulses to the liquid crystal device of the pixel via the scan line connected to the pixel within one frame period in order to control transmission rate of the liquid crystal device; and

a gate driver for applying a scan line voltage to the switch device of the pixel so that the data impulses can be applied to the liquid crystal device of the pixel.

[c8] 8. The driving circuit of claim 7 wherein the blur clear converter further comprises:
a multiplier for multiplying a frequency of a control signal to generate a multiplied signal;
a first image memory for delaying the pixel data for a frame period;
a processing circuit for generating the plurality of overdriven pixel data according to the pixel data and the pixel data delayed by the first image memory;
a second image memory for storing the overdriven pixel data;
a memory controller for controlling the second image memory according to the multiplied signal to output the plurality of overdriven pixel data to any pixel so that the source driver generates the data impulses to each pixel within one frame period according to the overdriven pixel data output by the second image memory.

[c9] 9. The driving circuit of claim 7 wherein the blur clear converter further comprises:
a multiplier for multiplying a frequency of a control signal to generate a multiplied signal;
a first image memory for receiving and temporarily storing the pixel data;
a second image memory for delaying the pixel data stored and output by the first image memory for a frame

period;

a third image memory for delaying the pixel data stored and output by the second image memory for a frame period;

a memory controller for controlling the second image memory and the third image memory according to the multiplied signal;

a processing circuit for generating the plurality of overdriven pixel data according to the pixel data delayed and output by the second image memory and the third image memory; and

a comparing circuit for comparing the pixel data delayed by the second image memory with the pixel data delayed by the third image memory in order to determine data values of the overdriven pixel data generated by the processing circuit.